

# Static Meter T350 (2WR6... / XS)

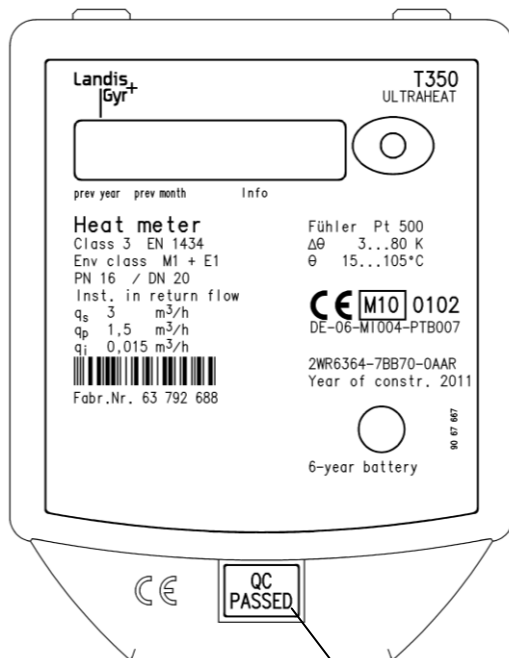
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## Operating instructions UH304-101u

These operating instructions have to be handed over to the end user

*Note: In the following text the term Meter covers the Heat Meter as well as the Cold Meter if not mentioned otherwise.*

3250 004 101 u



Security seal

### Introduction

The static meter 2WR6 / XS is a measuring instrument for physically correct recording of energy consumption. It is required to be certified by law in Germany and many other countries. The device consists of a volume measuring unit, two permanently connected temperature sensors, and an electronic unit that calculates the energy consumption from the volume flow and temperature difference.

The volume measuring unit is a non-wearing ultrasonic measuring device without mechanically moving parts. The long-life battery is designed for the calibration validity period. The meter cannot be opened without breaking the security seal.

The meter must only be operated under the conditions stated in the manuals and on the dial plate.

### Information on the Display

The displays of the meter are structured on several levels and may deviate from the standard described here. Each short press of the button switches to the next display of the user loop (level 1).

▼ indicates what sort of display it is.

### User Loop

			▼
0054567	kWh	Cumulated energy quantity	
00065.43	m³	Cumulated volume	
888888	kWh	Segment test	Info
F---		Error message on fault with fault number	Info

Pressing the button for 10 seconds switches from the user loop to the **service loop** (level 2).

**Exiting the service loop** by pressing the button for 3s or automatically after 30 minutes.

### Service Loop

		▼
0.534	m³/h	Current flow rate
22.9	kW	Current power
84 47	°C	Current supply-return temperature
04.06.08	D	Date
786	Bh	Operating hours
56	Fh	Missing hours
3792701	G	Device number, 7-digit
PULSE	CH	Remote reading option (optional)
123	A	Primary address when option M-Bus
2345678	K	Property number, 7-digit
18.02.08	F0	Date stamp for F0 prewarning
3- 01	FW	Firmware version
31.12.07	V	Previous year's day of storage
0034321	kWh	Energy previous year on set day
00923.12	m³	Volume previous year on set day
12	Fh	Missing hours previous year
- - - - -	C	Code entry for parameterization
01.06.08	M	Previous month's 1-15 day of storage
		After pressing button for 3s:
0034321	kWh	Energy previous month on set day
00923.12	m³	Volume previous month on set day
12	Fh	Missing hours previous month on set day

### Monthly Values

The calculator stores the following values for 15 months at each end of month

- Energy (meter reading)
- Volume (meter reading)
- Missing hours (meter reading)

From the month set day display, press the service button for 3s to enter the previous month's values.

The month values can also be read out via the optical interface.

### Fault Codes and IDs

The meter constantly performs self-diagnosis and can display various faults.

Fault Code	Fault	Measures
FL nEG	Wrong flow direction	Check / correct flow or mounting direction
	Maybe changing with	
DIFF nEG	Negative temperature difference	Check / exchange mounting position of sensors

Fault Code	Fault	Measures
	<b>Maybe changing with</b>	
F0	No flow rate can be measured	Air in the measuring unit/pipe, vent pipe (as-delivered state)
F1	Interruption in the supply sensor	Contact service
F2	Interruption in the return sensor	Contact service
F3	Electronics for temperature evaluation defective	Contact service
F4	Battery empty	Contact service
F5	Short-circuit in the supply sensor	Contact service
F6	Short-circuit in the return sensor	Contact service
F7	Fault in internal storage operation	Contact service
F8	Fault F1, F2, or F3 or F5, F6 pending for longer than 8 hours, detection of fraud attempts. No more measurements are performed.	This F8 error message must be reset by service.
F9	Fault in the electronics	Contact service

If the response thresholds are exceeded and the flowrate and temperature are positive, the energy quantity and volume will be summated. The segment test displays all display segments for test purposes.

On the yearly set day, the meter readings for energy quantity, volume, and missing time are placed in a previous year memory each year.

The flowrate, power, and temperature difference are recorded signed. Values below the response threshold are preceded by a "u". The current temperatures are displayed together as integer °C values on one display line.

The 8-digit property number (secondary address for M-bus operation) can be set in parameterization mode. The most significant digit is suppressed on the display. The device number is assigned by the manufacturer.

The operating hours are counted from initial connection of the power source. Missing hours are summated if a fault is pending that prevents the meter from measuring. The date is incremented daily.

The firmware version number is assigned by the manufacturer.

### Technical Data

Environment class	A (EN1434) for indoor installation
Mechanical class	M1 *)
Electromagnetical class	E1 *)
*) according 2004/22/EG EC directive	

### Electronic Unit

Ambient temperature	5 - 55°C
Power supply	Battery for 6 or 11 years or 24V AC/DC external (special version)
Temperature sensor	Pt 500
Communication	Optical interface standard, M-bus or pulse output optional
Protocol	IEC870, 300 baud in Nb
Splittability	Always removable, cable length 1 m
Ambient humidity	< 93% r. h. at 25°C without condensation

### Flowrate Measuring Unit

(Consider the details on the meter)

q <sub>p</sub>	Dimensions	
0.6	110mm (3/4")	190mm (1")
1.5	110mm (3/4")	190mm (1")
2.5	130mm (1")	190mm (1")

Temperature range recommended for...	5 - 105°C *)
...heat application	15 to 105°C
...cold application	5 to 50°C
*) national approvals may differ	
Nom. pressure	1.6 MPa (PN 16)
Overload	q <sub>s</sub> = 2 x q <sub>p</sub> , permanent
Mounting position	Horizontal or vertical
Measurement range	1:100 approved, calibrated
	1:50
Measurement accuracy:	EN 1434 cl. 3

### Temperature Sensor

Temperature sensor	Pt 500 acc. to EN 60751, not removable
Connection	2-wire, permanent.
Type	DS direct short, M10 x 27.5mm acc. to EN1434 or rod sensor 45 x 5.2 dia. mm
Cable length	1.5m standard, 5 m optional
Max. temperature	105 °C
Installation supply sensor	Mounting element for DS 1/2" x M10, ball valves for DS, brass pocket 1/2" for rod sensor
Installation return sensor	Integrated (when meter is for installation in return)

### Notes:

Observe national calibration laws when replacing the battery. Batteries must not be opened, come into contact with water, or be exposed to temperatures above 80 °C. The meter contains Lithium batteries, so it is not allowed to dispose it with the household waste. Return of the Lithium batteries must be carried out professionally. It is possible to return the product after use for proper disposal to the manufacturer. Please follow the legal regulations at the shipment of Lithium batteries, which rules amongst others the declaration and the packaging of hazardous good.

### EC Declaration of conformity

Landis+Gyr GmbH, Humboldtstr. 64, D-90459 Nürnberg, herewith declares that the products of type 2WR6 comply with the requirements of the following directives:

- **2004/108/EC** Electromagnetic compatibility
- **2006/95/EC** Low voltage directive
- **2004/22/EC** Measuring instruments directive
- **2002/95/EC** Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

Nürnberg, 07.03.2012

Brunner, COO		Kolk, R&D	
name, function	signature	name, function	signature

This declaration and the corresponding documents are lodged at Mr. Kolk c/o Landis+Gyr under the number CE 2WR6 006/03.12.

EC type-examination certificate

**DE-06-MI004-PTB007**

Certificate of the approval of a quality management system  
**DE-12-AQ-PTB006MID**

Notified body:

PTB Braunschweig und Berlin, Deutschland; Nr. 0102

Landis+Gyr GmbH  
Humboldtstr. 64  
D-90459 Nürnberg  
Germany